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# LINNAEAN PLANT NAMES BASED ON INDIA – ITS LAND LIFE, LANGUAGES AND LEGENDS

S.K. JAIN[1] AND HARSH SINGH[2]
[1]*26-A, Avas Vikas colony, Mall Avenue Colony, Lucknow - 226001*
*skjainbotanist@rediffmail.com*
[2]*Plant Diversity, Systematics and Herbarium, CSIR-NBRI, Lucknow*

## ABSTRACT

Carl Linnaeus gave names to 7700 species of plants, including several hundred plants from India. He based some generic and several hundred specific epithets on India, its states, towns, rivers, languages, edible, medicinal and other properties of plants, as also legends about faith and traditions. The paper gives about 150 examples of such generic or specific epithets. An analysis of present status of genera of flowering plants in India and the genera founded by Linnaeus shows that over 25 percent Linnaean genera occur here. It is remarkable that out of some 3500 notable useful plants in India, again about 25 percent are Linnaean binomials. Such rich representation of Linnaean genera and binomials within one country may be an unmatched figure. Considering phytogeographic aspect, some Linnaean species are even endemic and several are now believed to be RET taxa. A closer study of etymology of names listed in Appendix may result in establishing roots of some more names in Indian languages and life.

**Keywords:** Linnaeus, Species Plantarum, Binomial, India, Etymology.

## INTRODUCTION

The binomial system of naming plants is taken to have started from 1st May 1753, the date of publication of 'Species Plantarum' by Carl Linnaeus (1707-1778). The article deals with binomial names given by Linnaeus based on, or related to the Indian region.

Actually, Caspear Bauhin gave binomial names for first time in 1623 but Linnaeus properly established the system in his 'Species Plantarum' (Manilal & al., 2003). Linnaeus named 7700 plants of different groups and 4400 species of animals (Jain, 2007). He received specimens of animals and plants from various regions of the world, including India.

Prior to the period of Linnaeus, several accounts of plants in Indian languages and some in English did exist in our country. Relating to Indian region, the important publications before 1753 were by Garcia de Orta's 'Coloquios dos simples' in 1565, P. Hermann's 'Pardiscus Batavus' in 1698, von Rheed's 'Hortus Indicus Malabaricus' in 1678-1703 and Burmann's 'Thesaurus Zeylanicus' in 1737 (Jain & Rao, 1977). Over 250 Rheedean elements are reflected in descriptions of Linnaeus. Voluminous literature in Indian languages with reference to plants (particularly medicinal) existed for millennia and centuries such as in Vedas, Purans, Nighantus and Samhitas; in these works the emphasis being more on uses of plants, precise botanical identity and descriptions were scarcely given. Yet, the Sanskrit, Hindi or other Indian names of plants well served the purpose of reference. Several such Indian names became basis of Linnaean generic and specific names.

Linnaeus based many names on the country, India, and Indian regions, states, rivers, language words and even certain aspects of life of people like their food, health and also faith and legends. Many Hindi and Urdu names in India came from Arabic names through Persian. Some Linnaean names for Indian plants are now synonyms including basionyms. In case of basionyms, the new combination is given in bracket with a sign of equal to (=).

Some examples are given below for each category, i.e., the country, its land, life, languages and legends.

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The generic names are first dealt.

| | |
|---|---|
| **Areca** L. | 'Atakka' is the Malayalam name in Kerala for *Areca catechu* L. |
| **Avena** L. | Latin '*avena*', oats; derived from Sanskrit "av". |
| **Basella** L. | 'Vasala' is a Malayalam name in Kerala for *Basella rubra* L. and adapted by Rheede in *Hortus Malabaricus*. |
| **Capparis** L. | 'Kabra', Urdu name. The pickled flower buds of *Capparis spinosa* L. are known as Capers. |
| **Carissa** L. | *Kryshina'* is Sanskrit name meaning dark blue or black as the fruits are blackish blue and the shrub (*C. carandus* L.) is called 'Krishnaphala'. In Malayalam, it is called "Kari-mulla". |
| **Coffea** L. | Based on Arabic word 'Quahwah' for *Coffea arabica* L. 'Kahwa' is now common word for coffee in India. |
| **Datura** L. | 'Dhattura' is the Sanskrit name for many species of genus. |
| **Indigofera** L. | Indigo is blue dye from India. |
| **Mangifera** L. | Derived from 'Manga', 'Mangai', Malayalam and Tamil names of fruit of the plant of *Mangifera indica* L. (Mango). |
| **Pavetta** L. | 'Pavetta'is a Malayalam name for *Pavetta indica* L., adopted from Rheede, *Hortus Malabaricus*. |
| **Pistacia** L. | 'Pista' is Indian name for *P. vera* L. (Pistachio), the dry fruit 'Pista'. The word moves from Persia. |
| **Piper** L. | 'Pipuli' is the Sanskrit name for *Piper longum* L. |
| **Saccharum** L. | 'Sarkara' is Sanskrit name for *Saccharum officinarum* L. |
| **Santalum** L. | 'Chandana'is a Sanskrit name meaning fragrant. Persians and Arabs adopted the name 'Shandal' from Sanskrit name for *Santalum album* L. |
| **Urena** L. | 'Urena' is a Malayalam name, which Rheede coined in *Hortus Malabaricus* for*Urena lobata* L. |

Binomial names relevant to this article are dealt in following categories, i.e.

COUNTRY

**India:** In order to confirm grammatically to the generic name, the word India is Latinized to various forms such as *indica, indicum, indicus.*

**Acalypha indica** L.

**Aeginetia indica** L.

**Aeschynomene indica** L.

**Aira indica** L.
(=*Sacciolepis indica* (L.) Chase)

**Alopecurus indicus** L.

**Anthoxanthum indica** L.
(=*Perotis indica* (L.) Kuntze)

**Aristolochia indica** L.

**Aspalathus indica** L.

**Aster indicus** L.

**Baccharis indica** L.

**Bignonia indica** L.
(=*Oroxylum indicum* (L.) Vent.)

**Borago indica** L.
(=*Trichodesma indicum* (L.) R. Br.)

**Canna indica** L.

**Carex indica** L.

**Rhinanthus indica** L.
(=*Centranthera indica* (L.) Gamble)

**Chrysanthemum indicum** L.
(=*Dendranthema indicum* (L.) Des Moul.)

**Clerodendrum indicum** L.

**Crataegus indica** L.
(=*Rhaphiolepis indica* (L.) Lindl. ex Ker Gawl.)

**Cyclamen indicum** L.

**Cynosurus indicus** L.

**Daphne indica** L.
(=*Wikstroemia indica* (L.) C.A. Mey)

**Dillenia indica** L.

**Dodartea indica** L.
(=*Lindenbergia indica* (L.) Vatke)

**Drosera indica** L.

**Erythrina indica** L.

**Flagellaria indica** L.

**Heliotropium indicum** L.

**Hottonia indica** L.
(=*Limnophila indica* (L.) Druce)

**Inula indica** L.
(=*Pentanema indicum* (L.) Y. Ling.)

**Lagerstroemia indica** L.

**Leea indica** L.

**Mangifera indica** L.

**Menyanthes indica** L.

**Morus indica** L.

**Nepeta indica** L.
(=*Anisomeles indica* (L.) Kuntze)

**Panicum indica** L.

**Pavetta indica** L.

**Periploca indica** L.
(=*Hemidesmus indicus* (L.) R. Br.)

**Plumbago indica** L.

**Quisqualis indica** L.

**Rosa indica** L.

**Salvia indica** L.

**Saraca indica** L.

**Sesamum indicum** L.

**Sida indica** L.
(=*Abutilon indicum* (L.) Sweet)

**Sisymbrium indicum** L.
(=*Rorippa indica* (L.) Hiern.)

**Solanum indicum** L.

**Sphaeranthus indicum** L.

**Tamarindus indica** L.

**Trifolium indicum** L.
(=*Melilotus indica* (L.) All. )

**Vateria indica** L.

**Waltheria indica** L.

**Xyris indica** L.

**Zanonia indica** L.

**Land -** Here species names based on regions, states, towns and rivers are included.

REGIONS

**Convolvulus malabaricus** L. (Malabar is the coastal region in west of Penninsula)

**Malva coromandeliana** L.
(=*Malvastrum coromandelianum* (L.) Garcke) (Coromandal is eastern coastal region of penninsula)

**Nepeta malabarica** L.
(=*Anisomeles malabarica* (L.) R. Br. ex Sims.)

STATES

**Banisteria benghalensis** L.
(=*Hiptage benghalensis* (L.) Kurz) (Bengal is a state in Eastern India)

**Commelina benghalensis** L.

**Ficus benghalensis** L.

**Illecebrum benghalense** L.

TOWN

**Cucumis maderaspatanus** L.
(=*Melothria maderaspatana* (L.) Cogn.) (Madras formerly name of state, capital town now named Chennai)

**Hyllanthus maderaspatensis** L.

**Hibiscus surattensis** L. (Surat town in Gujarat)

### RIVERS

**Amaranthus gangeticus** L.
(Ganges is longest river in India)

**Convolvulus gangeticum** L.

**Hedysarum gangeticum** L.
(=*Desmodium gangeticum* (L.) DC.)

**Justicia gangetica** L.
(=*Asystasia gangetica* (L.) T. Anderson)

**Life -** This will include names related with material aspects of human life like food, medicine, fibre, dye, etc.

### FOOD

**Arum esculentum** L.
(=*Colocasia esculenta* (L.) Schott) (*esculentus* means edible)

**Hibiscus esculentus** L.
(=*Abelmoschus esculentus* (L.) Monch.)

**Averrhoa acida** L.
(= *Cicca acida* (L.) Merr.)
(leaves and fruits with acidic taste are edible)

### MEDICINE

**Allamanda cathartica** L.
(*cathartic*=strong purgative)

**Althaea officinalis** L.
(*officinalis*=used in medicine,
officinal=a drug shop)

**Antidesma alexiteria** L.
(*Alexin*=a substance which kills germs)

**Asparagus officinalis** L.

**Avicennia officinalis** L.

**Borago officinalis** L.

**Calendula officinalis** L.

**Citrus medica** L.
(*medica* refers to medicinal use)

**Euphrasia officinalis** L.

**Fumaria officinalis** L.

**Guaiacum officinale** L.

**Hyssopus officinalis** L.

**Jasminum officinale** L.

**Lavendula officinalis** L.

**Lithospermum officinalis** L.

**Mandragora officinarum** L.

**Melissa officinalis** L.

**Paeonia officinalis** L.

**Phyllanthus urinaria** L. (used for diuretic property)

**Rosmarinus officinalis** L.

**Salvia officinalis** L.

**Saponaria officinalis** L.

**Tamarindus officinalis** Hook.

**Valeriana officinalis** L.

**Verbena officinalis** L.

### DYE

**Indigofera tinctoria** L.
(*tinctorius* meaning used in dyeing)

**Carthamus tinctorius** L.

### AROMATIC/SPICES AND CONSTITUENTS

**Caryophyllus aromaticus** L.
(=*Syzygium aromaticum* (L.)
Merr. & L.M. Perry)

**Ruta graveolens** L.
(*graveolens* meaning strong smelling)

**Anethum graveolens** L.

## LANGUAGES

Apart from any Sanskrit, Hindi or other Indian names accompanying the specimens from India. The only source for Indian language names available to Linnaeus was perhaps Rheede's work and he profusely quoted Malayalam names in his 'Species Plantarum' and even based several specific epithets on Malayalam names (Manilal & al., 2003).

| | |
|---|---|
| **Amomum cardamom** L. | (=*Elettaria cardamomum* (L.) Maton) this is cardamom 'Elachi', called in Malayalam 'Elettari' |
| **Averrhoa bilimbi** L. | ('Bilmbi' is Malayalam name of the plant) |
| **Averrhoa carambola** L. | ('Carambola' is name in Rheede's work) |
| **Avicennia oepata** L. | ('Oepata' is the Malayalam name of the plant) |
| **Caesalpinia sappan** L. | ('Sappannam' is Malayalam name of the plant) |
| **Capparis baducca** L. | ('Baducca' is the Malayalam name of the plant) |
| **Carica papaya** L. | (= Hindi-Papeeta, Pepa) |
| **Carissa carandus** L. | ('Karonda' is Hindi name of the plant) |
| **Convolvulus scammonia** L. | (Skammonia is a Hindi name of the plant ) |
| **Eugenia jambos** L. | (= *Syzygium jambos* (L.) Alston) Jamrul, Jam, in Indian languages |
| **Euphorbia tirucalli** L. | ('Tiru' is the Malayalam name of the plant) |
| **Guilandia moringa** L. | ('Morungu' is the Malayalam name of the plant) |
| **Helicteres isora** L. | ( 'Isora Murri' is the Malayalam name of the plant) |
| **Kaempferia galanga** L. | ('Kacholakilangu' Tamil name of the plant) |
| **Michelia champaca** L. | (Champa is the Hindi name of the plant) |
| **Mimusops elengi** L. | (Elengi is the Malayalam name of the plant) |
| **Nicotiana tabacum** L. | ('Tambaku' is Hindi name of the plant) |
| **Ophiorrhiza mungos** L. | (Marathi='Mung-usavela', Gujarati='Mungusvel' and Kannada='Mungisigida') |
| **Peganum harmala** L. | ('Harmal' is Hindi name of the plant) |
| **Phaseolus mungo** L. | (= *Vigna mungo* (L.) Hepper) (Hindi name related to pulses) |
| **Rhizophora candel** L. | ('Tsierou-kandel' is the Malayalam name of the plant ) |
| **Vitex negundo** L. | ('Nirgundi' is Hindi and Sanskrit name of the plant) |

## LEGEND

During the period when plant specimens were sent to Linnaeus many legends and stories about worship offering and other aspects of sacred association with plants must have reached Linnaeus; these are reflected in the following names given by Linnaeus:

**Ficus religiosa** L.

**Ocimum sanctum** L. (it is vary sacred plant)

## DISCUSSION

The above examples show notable associations of Linnaean generic and specific names with India. The largest number of specific epithets relating to our country is based on the name India. It was natural because Linnaeus was handling specimens from whole world, and he must have chosen to first give the specific epithets *indica, indicum or indicus* for plants from India. When these epithets were preoccupied in any genus he gave other epithet based on morphological features, existing local name for the plant (as in some name from Rheede's work), or any religious or mythological association (like *religiosa, sanctum*), etc.

Certain other aspects of Linnaean taxa are also significant. Out of 2988 genera of flowering plants reported to occur in India, about 25% are generic names given by Linnaeus (Santapau & Henry, 1973; Nayar, 1985). A quick glance at the notable useful plants of India (about 3500 plant species) (Ambashta, 1986: Agarwal, 2003; Jain & al., 2002) shows that binomials of over 750 species are given by Linnaeus.

Several plants with binomials given by Linnaeus are also important from viewpoint of phytogeography and plant diversity in India. Some are endemic, and several are now rare or threatened due to scarce occurrence or over exploitation. Some examples of endemics are: *Strychnos colubrinea* L., *Asparagus asiaticus* L., *Balreria lawii* L.

Many angiosperms having Linnaeus binomials are now considered RET species, *e.g.,Gloriosa superba* L., *Maranta galanga* L. (=*Alpinia galanga* (L.) Willd.), *Polemonium caeruleum* L., *Acorus calamus* L., *Corypha umbraculifera* L., *Psoralea corylifolia* L., *Rubia cordifolia* L. and *Hypericum humifusum* L.

**Authors' limitations:** Author's familiarity only with Hindi language limit interpretation of names of possible origin from other Indian languages. Names based on Malayalam words have been well discussed by Manilal & al. (2003). Reader familiar with other languages can trace root of several other specific names given by Linnaeus. For this purpose an Appendix is provided.

Interpretation of more specific epithets in Linnaean binomials showing relation with land, life, languages and legends of India will further strengthen the inference that the legacy of this great biologist, Carl Linnaeus is immortal and deep-rooted in Indian bio-cultural diversity.

## APPENDICES

The article has two appendices. Appendix I is an alphabetical list (not exhaustive) of specific epithets which do not fall in commonly understood category and are also not dealt in the main text of this paper. Orthographic or grammatical variants are excluded. Other exclusions are: Epithets referring to habitat (e.g. *aquatica, desertorum*), habit (*diffusa, prostrata, scandens*), colour (*alba, rubra, nigra*), morphology of various plant parts (*cylindrica, spinosa, latifolia, linearis, pinnata, lancifolia, ovata,* etc.), phyllotaxy (*alternifolia,*

## APPENDIX I

1. *absinthium*
2. *absus*
3. *acetosa*
4. *agallocha*
5. *ascalonicum*
6. *beccabunga*
7. *behen*
8. *bursa-postoris*
9. *cainito*
10. *cairica*
11. *cajan*
12. *calabura*
13. *calamus*
14. *calcitrapa*
15. *camara*
16. *campechianum*
17. *cannabina*
18. *caprea*
19. *carica*
20. *carvi*
21. *catappa*
22. *cataria*
23. *chalepensis*
24. *charantia*
25. *cheiri*
26. *cujete*
27. *donax*
28. *dulcamara*
29. *faba*
30. *fatua*
31. *icaco*
32. *icosandra*
33. *jabotapita*
34. *Kauki*
35. *mahaleb*
36. *manghas*
37. *melongena*
38. *metel*
39. *miliaceum*
40. *montana*
41. *muralis*
42. *murex*
43. *mutabilis*
44. *pareira*
45. *pepo*
46. *quamoclit*
47. *rotang*
48. *sabdariffa*
49. *sanguine*
50. *stoechas*
51. *terahit*
52. *tora*
53. *zibethinus*

## APPENDIX II

1. *Acorus calamus*
2. *Allium ascalonicum*
3. *Arnica montana*
4. *Artemisia absinthium*
5. *Arundo donax*
6. *Avena fatua*
7. *Cajanus cajan*
8. *Calamus rotang*
9. *Capsella bursa-pastoris*
10. *Carum carvi*
11. *Cassia absus*
12. *Cassia tora*
13. *Centaurea behen*
14. *Centaurea calcitrapa*
15. *Cerbera manghas*
16. *Cheiranthus cheiri*
17. *Chrysobalanus icaco*
18. *Chrysophyllum cainito*
19. *Cissampelos pareira*
20. *Cleome icosandra*
21. *Cornus sanguine*
22. *Crescentia cujete*
23. *Cucurbita pepo*
24. *Datisca cannabina*
25. *Datura metel*
26. *Draba muralis*
27. *Durio zibethinus*
28. *Excoecaria agallocha*
29. *Ficus carica*
30. *Galeopsis tetrahit*
31. *Haematoxylon campechianum*
32. *Hibiscus mutabilis*
33. *Hibiscus sabdariffa*
34. *Ipomoea cairica*
35. *Ipomoea quamoclit*
36. *Lantana camara*
37. *Lavandula stoechas*
38. *Mimusops kauki*
39. *Momordica charantia*
40. *Muntingia calabura*
41. *Nepeta cataria*
42. *Ochna jabotapita*
43. *Panicum miliaceum*
44. *Pedalium murex*
45. *Prunus mahaleb*
46. *Rumex acetosa*
47. *Ruta chalepensis*
48. *Salix caprea*
49. *Solanum dulcamara*
50. *Solanum melongena*
51. *Terminalia catappa*
52. *Veronica beccabunga*
53. *Vicia faba*

*oppositifolia*), inflorescence (*racemosa, paniculata, cymosa*). Also excluded are the epithets commonly employed in botanical names like *vulgare, sylvestris, sativa, inermis,* etc., whose meanings are available in the dictionaries of botanical Latin. Their meanings are easily understood. Epithet based on proper nouns (like names of other countries - Africa, etc.) and persons are also excluded. Several epithets are based on root words of languages other than English, such as from Latin or Greek words; many of which are not familiar to botanists in India. Appendix II is an alphabetically arranged list of genera related to the specific epithets given in appendix I. This should facilitate interpretation of names.

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# भारतीय पौधों के लिनियस वर्गीकी आधारित नाम तथा नामकरण का भारत भूमि जीवन भाषा एंव संस्कृति से सम्बन्ध

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## सारांश

कॉर्ल लिनियस ने अपनी पुस्तक Li hl ht +hy kVaje में 7700 पौधों का वर्णन किया है। लिनियस के द्वारा पौधों के कुछ वंशों तथा कई सौ जातियों के नाम भारत के प्रांतों, नगरों, खाद्य व औषधीय गुणों, भाषाओं तथा आस्थाओं पर रखे गये। लेख में ऐसे लगभग 150 दृष्टांत दिये हैं। वर्तमान में पुष्पी पोधौं के 2900 वंशों में से लगभग 25 प्रतिशत लिनियस द्वारा स्थापित वंश हैं। प्रमुख 3500 उपयोगी पौधों में से भी लगभग चौथाई नाम लिनियस द्वारा रचित हैं। एक देश से लिनियस द्वारा स्थापित नामों का ऐसा बाहुल्य संभवत: अतुलनीय है। लिनियस द्वारा स्थापित कुछ जातियाँ आज भी भारत में सीमित-क्षेत्री (एंडेमिक) हैं, तथा अनेक अब दुर्लभ भी हो गई हैं। आशा है कि परिशिष्ठ में दिये जातीय नामों के गहन अध्ययन से कुछ और नामों का स्रोत भारतीय भाषाओं में मिलेगा।